IN THE CLAIMS

Please amend claims 33, 86 and 88 as indicated below. All of the presently pending claims are reproduced below with the status of each claim indicated in parentheses.

1. (Previously Presented) A lighting fixture for generating white light, comprising:

a plurality of component illumination sources, said plurality including component illumination sources producing electromagnetic radiation of at least two different spectrums, each of said spectrums having a maximum spectral peak outside the region 510 nm to 570 nm; and

a mounting holding said plurality, said mounting designed to allow said spectrums of said plurality to mix and form a resulting spectrum;

wherein said resulting spectrum is continuous within the photopic response of the human eye; and

wherein at least one of the plurality of component illumination sources has a maximum spectral peak less than 400 nm.

2-15. (Canceled).

16. (Previously Presented) A lighting fixture for generating white light, comprising:

a plurality of component illumination sources, said plurality including component illumination sources producing electromagnetic radiation of at least two different spectrums, each of said spectrums having a maximum spectral peak outside the region 510 nm to 570 nm; and

a mounting holding said plurality, said mounting designed to allow said spectrums of said plurality to mix and form a resulting spectrum;

wherein said resulting spectrum is continuous within the photopic response of the human eye; and

wherein at least one of the plurality of component illumination sources has a maximum spectral peak greater than 700 nm.

17. (Previously Presented) A lighting fixture comprising:

a plurality of LEDs, each of said plurality adapted to produce one of three preselected spectrums, each of said spectrums having a maximum spectral peak outside the region bounded by 530nm and 570nm;

wherein the lighting fixture is configured such that additive interference of said spectrums results in white light that can be controlled to produce white light within a range of color temperatures;

a controller enabling a particular color temperature within said range of color temperatures to be selected, and a signal to be generated representing that color temperature; and

a processor in communication with said plurality of LEDs, said processor capable of receiving said signal from said controller and controlling the intensity of each of said plurality of LEDs in response thereto.

18. (Original) The lighting fixture of claim 17 wherein at least one of said preselcted spectrums has a maximum spectral peak of about 450 nm.

19. (Original) The lighting fixture of claim 17 wherein at least one of said preselected spectrums has a maximum spectral peak of about 592 nm.

20. (Canceled).

21. (Previously Presented) The lighting fixture of claim 17, wherein said range of color temperatures extends from about 500K to about 10,000K.

22. (Previously Presented) The lighting fixture of claim 17, wherein said range of color temperatures extend from about 2300K to about 4500K.

23. (Canceled).

24. (Canceled).

25. (Previously Presented) A lighting fixture for replacing fluorescent tubes comprising:

a mounting;

at least two component illumination sources mounted on said mounting;

a connector mounted on said mounting, said connector capable of connecting with a device adapted for holding fluorescent tubes to receive power from said device and provide power to said at least two component illumination sources; and

a control circuit for controlling said at least two component illumination sources, wherein said control circuit comprises a processor.

26. (Original) The lighting fixture of claim 25 wherein said component illumination sources comprise LEDs.

27. (Previously Presented) The lighting fixture of claim 25 wherein said control circuit and said at least two components illumination sources are configured such that a mixing of radiation from the at least two component illumination sources is capable of producing white light.

28. (Original) The lighting fixture of claim 25 further comprising a housing for said mounting.

29. (Original) The lighting fixture of claim 28 wherein said housing is generally cylindrical in shape.

30. (Original) The lighting fixture of claim 28 wherein said housing includes a filter.

31. (Previously Presented) The lighting fixture of claim 28, wherein said housing includes at least one of a transparent portion and a translucent portion.

32. (Previously Presented) The lighting fixture of claim 25, wherein said control circuit is configured to control said at least two component illumination sources based on the power provided by said device adapted for holding fluorescent tubes.

33. (Currently Amended) The lighting fixture of claim 25 ~~A lighting fixture for replacing fluorescent tubes comprising:~~

~~a mounting;~~

~~at least two component illumination sources mounted on said mounting;~~

~~a connector mounted on said mounting, said connector capable of connecting with a device adapted for holding fluorescent tubes to receive power from said device and provide power to said at least two component illumination sources; and~~

~~a control circuit for controlling said at least two component illumination sources~~,

wherein said control circuit and said at least two ~~components~~ component illumination sources are configured such that a mixing of radiation from the at least two component illumination sources is capable of producing white light.

34 – 65. (Canceled).

66. (Previously Presented) A lighting fixture for generating white-light, comprising:

a plurality of component illumination sources including at least one white LED, said plurality including component illumination sources producing electromagnetic radiation of at least two different spectrums; and

a mounting holding said plurality, said mounting designed to allow said spectrums of said plurality to mix and form a resulting spectrum;

wherein the visible portion of said resulting spectrum has intensity greater than background noise at its lowest spectral valley.

67. (Original) The lighting fixture of claim 66 wherein said resulting spectrum has intensity at its lowest spectral valley which is at least 5% of its intensity at its maximum spectral peak.

68. (Original) The lighting fixture of claim 66 wherein said resulting spectrum has intensity at its lowest spectral valley which is at least 10% of its intensity at its maximum spectral peak.

69. (Original) The lighting fixture of claim 66 wherein said resulting spectrum has intensity at its lowest spectral valley which is at least 25% of its intensity at its maximum spectral peak.

70. (Original) The lighting fixture of claim 66 wherein said resulting spectrum has intensity at its lowest spectral valley which is at least 50% of its intensity at its maximum spectral peak.

71. (Original) The lighting fixture of claim 66 wherein said resulting spectrum has intensity at its lowest spectral valley which is at least 75% of its intensity at its maximum spectral peak.

72. (Original) The lighting fixture of claim 66 wherein said component illumination sources include LEDs.

73. (Original) The lighting fixture of claim 66 wherein said white light can be generated at a color temperature within a preselected range of color temperatures.

74. (Previously Presented) The lighting fixture of claim 73, further comprising:

a controller configured to control the plurality of component illumination sources to selectably generate the white light from the lighting fixture at a particular color temperature within said range of color temperatures.

75. (Previously Presented) The lighting fixture of claim 74, wherein the controller is configured to control the plurality of component illumination sources such that white light produced at 4800K has a Color Rendering Index (CRI) value of at least 80.

76. (Previously Presented) The lighting fixture of claim 75, wherein the controller is configured to control the plurality of component illumination sources such that white light produced at 2300K has a Color Rendering Index (CRI) value of at least 50.

77. (Original) The lighting fixture of claim 66 wherein at least one of said plurality of component illumination sources includes a phosphor.

78. (Original) The lighting fixture of claim 66 wherein at least one of said plurality of component illumination sources comprises an LED including a phosphor.

79. (Previously Presented) The lighting fixture of claim 78, wherein said LED produces white light.

80. (Previously Presented) A lighting fixture for generating white light, comprising:

a plurality of component illumination sources including at least one white LED, said plurality including component illumination sources producing electromagnetic radiation of at least two different spectrums; and

a mounting holding said plurality, said mounting designed to allow said spectrums of said plurality to mix and form a resulting spectrum;

wherein each spectral valley wavelength of the resulting spectrum within a photopic response of a human eye is less than a maximum spectral peak wavelength of the resulting spectrum.

81. (Original) The lighting fixture of claim 80 wherein said component illumination sources include LEDs.

82. (Previously Presented) The lighting fixture of claim 80, wherein said resulting spectrum does not have a spectral valley wavelength longer than a maximum spectral peak wavelength in a range from 400 nm to 700 nm.

83. (Previously Presented) The lighting fixture of claim 80, wherein said white light can be generated at a color temperature within a preselected range of color temperatures.

84. (Previously Presented) A lighting fixture of claim 83, wherein said range of color temperatures includes at least one color temperature from the range 500K to 2500K.

85. (Previously Presented) A method for generating light comprising:

A) mounting a plurality of component illumination sources, including at least one white LED, producing electromagnetic radiation of at least two different spectrums in such a way as to mix the spectrums; and

B) choosing said at least two different spectrums in such a way that the mix of the spectrums forms a resulting spectrum having an intensity greater than background noise at its lowest spectral valley within the photopic response of the human eye.

86. (Currently Amended) The lighting fixture of claim 25 ~~A lighting fixture for replacing fluorescent tubes comprising:~~

~~a mounting;~~

~~at least two component illumination sources mounted on said mounting;~~

~~a connector mounted on said mounting, said connector capable of connecting with a device adapted for holding fluorescent tubes to receive power from said device and provide power to said at least two component illumination sources; and~~

~~a control circuit for controlling said at least two component illumination sources~~,

wherein each illumination source of the at least two component illumination sources is configured to generate radiation having an essentially white color.

87. (Previously Presented) The lighting fixture of claim 86, wherein the at least two component illumination sources include at least one white LED.

88. (Currently Amended) The lighting fixture of claim 25

~~A lighting fixture for replacing fluorescent tubes comprising:~~

~~a mounting;~~

~~at least two component illumination sources mounted on said mounting;~~

~~a connector mounted on said mounting, said connector capable of connecting with a device adapted for holding fluorescent tubes to receive power from said device and provide power to said at least two component illumination sources; and~~

~~a control circuit for controlling said at least two component illumination sources~~,

wherein the at least two component illumination sources comprise:

a first illumination source configured to generate first radiation having a first spectrum; and

a second illumination source configured to generate second radiation having a second spectrum,

wherein the lighting fixture is configured such that a mixing of the first and second radiation, when power is provided to at least the first and second illumination sources, produces a resulting spectrum.

89. (Previously Presented) The lighting fixture of claim 88, wherein the first and second illumination sources are configured such that the first spectrum and the second spectrum are different.

90. (Previously Presented) The lighting fixture of claim 88, wherein the lighting fixture is configured such that a color of the resulting spectrum as perceived by an observer at a given time is an essentially non-white color.

91. (Previously Presented) The lighting fixture of claim 88, wherein the lighting fixture is configured such that a color of the resulting spectrum as perceived by an observer at a given time is an essentially white color.

92. (Previously Presented) The lighting fixture of claim 88, wherein the lighting fixture is configured such that the resulting spectrum is continuous within a photopic response of a human eye.

93. (Previously Presented) The lighting fixture of claim 88, wherein the lighting fixture is configured such that a portion of the resulting spectrum in a visible range has a lowest spectral valley having an intensity greater than background noise.

94. (Previously Presented) The lighting fixture of claim 88, wherein the lighting fixture is configured such that each spectral valley wavelength of the resulting spectrum within a photopic response of a human eye is less than a maximum spectral peak wavelength of the resulting spectrum.

95. (Previously Presented) The lighting fixture of claim 88, wherein the lighting fixture is configured such that within a visible range, the resulting spectrum is continuous, has no spectral valley wavelength greater than a maximum spectral peak wavelength of the resulting spectrum, and has a lowest spectral valley intensity greater than background noise.

96. (Previously Presented) The lighting fixture of claim 88, wherein each of the first and second spectrums has a maximum spectral peak wavelength outside a range from approximately 510 nm to 570 nm.

97. (Previously Presented) The lighting fixture of any of claims 91-96, wherein the at least two component illumination sources include at least one LED.

98. (Previously Presented) The lighting fixture of claim 97, wherein the at least one LED includes at least one white LED.

99. (Previously Presented) The lighting fixture of claim 97, wherein the at least one LED includes at least one amber LED.

100. (Previously Presented) The lighting fixture of claim 97, wherein the at least one LED includes at least one red LED, at least one green LED, and at least one blue LED.

101. (Previously Presented) The lighting fixture of claim 97, wherein the at least one LED includes at least one white LED, at least one amber LED, and at least one of at least one red LED, at least one green LED, and at least one blue LED.

102. (Previously Presented) The lighting fixture of claim 97, wherein the at least one LED includes an infrared (IR) LED.

103. (Previously Presented) The lighting fixture of claim 97, wherein the at least one LED includes an ultraviolet (UV) LED.

104. (Previously Presented) The lighting fixture of claim 97, wherein the at least two component illumination sources further comprise at least one third illumination source that is not an LED, the at least one third illumination source configured to generate third radiation having a third spectrum, the lighting fixture arranged such that, when power is provided to the first, second and third illumination sources, the third spectrum mixes with at least one of the first and second spectrums to produce the resulting spectrum.

105. (Previously Presented) The lighting fixture of claim 104, wherein the third spectrum has a maximum spectral peak wavelength within a range from approximately 510 nm to 570 nm.

106. (Previously Presented) The lighting fixture of claim 88, wherein the control circuit is configured to independently control at least a first intensity of the first radiation and a second intensity of the second radiation.

107. (Previously Presented) The lighting fixture of claim 106, wherein the control circuit is configured to implement a pulse width modulation technique to control at least the first intensity of the first radiation and the second intensity of the second radiation.

108. (Previously Presented) The lighting fixture of claim 107, wherein the control circuit is configured as an addressable control circuit.

109. (Previously Presented) The lighting fixture of claim 108, wherein the lighting fixture is configured to be coupled to at least one other addressable lighting fixture so as to form a networked lighting system.

110. (Previously Presented) The lighting fixture of claim 106, wherein the controller is configured to independently control at least the first intensity of the first radiation and the second intensity of the second radiation so as to controllably vary an overall intensity of the resulting spectrum as perceived by an observer.

111. (Previously Presented) The lighting fixture of claim 106, wherein the controller is configured to independently control at least the first intensity of the first radiation and the second intensity of the second radiation so as to controllably vary an overall color of the resulting spectrum as perceived by an observer.

112. (Previously Presented) The lighting fixture of claim 111, wherein the overall color of the resulting spectrum as perceived by the observer is essentially white, and wherein the controller is configured to independently control at least the first intensity of the first radiation and the second intensity of the second radiation so as to controllably vary a color temperature of the resulting spectrum.

113. (Previously Presented) The lighting fixture of claim 106, wherein the control circuit is configured to independently control at least the first intensity of the first radiation and the second intensity of the second radiation in response to user input.

114. (Previously Presented) The lighting fixture of claim 113, wherein the lighting fixture is configured to be coupled to at least one user interface that provides at least one control signal to the control circuit.

115. (Previously Presented) The lighting fixture of claim 114, in combination with the at least one user interface.

116. (Previously Presented) The combination of claim 115, further in combination with the device adapted for holding fluorescent tubes.

117. (Previously Presented) The combination of claim 116, wherein the at least one user interface is affixed to the device adapted for holding fluorescent tubes.

118. (Previously Presented) The lighting fixture of claim 114, wherein the control circuit is configured to independently control at least the first intensity of the first radiation and the second intensity of the second radiation so as to controllably vary the resulting spectrum to generate essentially white light over a range of color temperatures.

119. (Previously Presented) The lighting fixture of claim 118, wherein the control circuit is configured to controllably vary the resulting spectrum in response to the at least one control signal and wherein the at least one control signal indicates a user specified color temperature in the range of color temperatures.

120. (Previously Presented) The lighting fixture of claim 118, in combination with the at least one user interface.

121. (Previously Presented) The combination of claim 120, wherein the at least one user interface includes:

at least one representation of the range of color temperatures; and

means for selecting a desired color temperature from the range of color temperatures.

122. (Previously Presented) The combination of claim 121, wherein the user interface includes at least one display configured to display the at least one representation of the range of color temperatures.

123. (Previously Presented) The combination of claim 121, wherein the means for selecting a desired color temperature includes at least one of a dial, a switch, a slider, and a touch-sensitive surface.

124. (Previously Presented) The combination of claim 120, wherein the at least one user interface is affixed to the lighting fixture.

125. (Previously Presented) The combination of claim 120, wherein the at least one user interface is capable of being affixed proximate the lighting fixture.

126. (Previously Presented) The combination of claim 120, wherein the at least one user interface is adapted to be mounted to a wall.

127. (Previously Presented) The lighting fixture of claim 118, in combination with a computer system comprising the at least one user interface.

128. (Previously Presented) The combination of claim 127, wherein the computer system includes means for controllably varying the resulting spectrum.

129. (Previously Presented) The combination of claim 127, wherein the computer system includes means for selecting a color temperature from the range of color temperatures.

130. (Previously Presented) The combination of claim 129, wherein the means for selecting a color temperature includes at least one of a keyboard, a mouse, a console, and a touch sensitive surface.

131. (Previously Presented) The combination of claim 127, wherein the computer system includes at least one display configured to display at least one representation of the range of color temperatures.

132. (Previously Presented) The combination of claim 131, wherein the at least one representation includes at least one of a color palette, a color range, chromaticity diagram and a Commission Internationale de l'Eclairage (CIE) diagram.

133. (Previously Presented) The combination of claim 131, wherein the display further indicates a current selected color temperature.

134. (Previously Presented) The lighting fixture of claim 114, wherein the control circuit includes a wireless receiver configured to receive remote wireless user input.

135. (Previously Presented) The lighting fixture of claim 134, in combination with the at least one user interface, wherein the at least one user interface includes a remote control unit adapted to wirelessly provide the at least one control signal to the control circuit.

136. (Previously Presented) The lighting fixture of claim 88, wherein the at least two component illumination sources include at least one LED including a phosphor.

137. (Previously Presented) The lighting fixture of claim 136, wherein:

the first illumination source includes the at least one LED including the phosphor;

the at least one LED including the phosphor is configured to irradiate the phosphor with pump radiation; and

the phosphor converts at least a portion of the pump radiation so as to emit the first radiation having the first spectrum.

138. (Previously Presented) The lighting fixture of claim 137, wherein the first spectrum includes essentially green and red light.

139. (Previously Presented) The lighting fixture of claim 138, wherein the pump radiation includes essentially blue light.

140. (Previously Presented) The lighting fixture of claim 137, wherein the lighting fixture further comprises at least one filter to modify a portion of the resulting spectrum.

141. (Previously Presented) The lighting fixture of claim 140, wherein the at least one filter includes a high pass filter configured to attenuate a portion of at least one of the first spectrum and the second spectrum.

142. (Previously Presented) The lighting fixture of claim 140, wherein the at least one filter includes a high pass filter configured to attenuate a portion of the pump radiation not converted by the phosphor.

143. (Previously Presented) The lighting fixture of claim 137, wherein the second illumination source is configured such that the second spectrum includes essentially amber light.

144. (Previously Presented) The lighting fixture of claim 143, wherein the second illumination source comprises at least one amber LED.

145. (Previously Presented) The lighting fixture of claim 144, wherein the control circuit is configured to independently control at least a first intensity of the first radiation and a second intensity of the second radiation so as to controllably vary an overall color of the resulting spectrum as perceived by an observer.

146. (Previously Presented) The lighting fixture of claim 145, wherein the control circuit is configured to implement a pulse width modulation technique to control at least the first intensity of the first radiation and the second intensity of the second radiation.

147. (Previously Presented) The lighting fixture of claim 145, wherein the control circuit is configured as an addressable control circuit.

148. (Previously Presented) The lighting fixture of claim 147, wherein the lighting fixture is configured to be coupled to at least one other addressable lighting fixture so as to form a networked lighting system.

149. (Previously Presented) The lighting fixture of claim 145, wherein the control circuit is configured to controllably vary the resulting spectrum to produce essentially white light over a range of color temperatures.

150. (Previously Presented) The lighting fixture of claim 149, wherein the range of color temperatures includes approximately 4800K and wherein the control circuit is configured to control a composition of the resulting spectrum such that white light produced at approximately 4800K has a Color Rendering Index (CRI) value of at least 80.

151. (Previously Presented) The lighting fixture of claim 149, wherein the range of color temperatures includes approximately 2300K and wherein the control circuit is configured to control a composition of the resulting spectrum such that white light produced at approximately 2300K has a Color Rendering Index (CRI) value of at least 50.

152. (Previously Presented) The lighting fixture of claim 149, wherein the range of color temperatures includes at least one color temperature in a range from 500K to 2500K.

153. (Previously Presented) The lighting fixture of claim 149, wherein the control circuit is configured to independently control at least the first intensity of the first radiation and the second intensity of the second radiation in response to user input.

154. (Previously Presented) The lighting fixture of claim 153, wherein the lighting fixture is configured to be coupled to at least one user interface that provides at least one control signal to the control circuit.

155. (Previously Presented) The lighting fixture of claim 154, in combination with the at least one user interface.

156. (Previously Presented) The combination of claim 155, wherein the at least one user interface includes:

at least one representation of the range of color temperatures; and

means for selecting a desired color temperature from the range of color temperatures.

157. (Previously Presented) The combination of claim 156, wherein the at least one user interface includes a control unit having at least one of a dial, a slider, a switch, and a touch-sensitive surface.

158. (Previously Presented) The lighting fixture of claim 88, wherein the first illumination source includes at least one white LED.

159. (Previously Presented) The lighting fixture of claim 88, wherein the first and second illumination sources include at least two white LEDs adapted to generate respectively different spectra.

160. (Previously Presented) The lighting fixture of claim 158, wherein the second illumination source includes at least one non-white LED.

161. (Previously Presented) The lighting fixture of claim 160, wherein the at least one non-white LED includes at least one of at least one red LED, at least one green LED, and at least one blue LED.

162. (Previously Presented) The lighting fixture of claim 160, wherein the at least one non-white LED includes at least one amber LED.

163. (Previously Presented) The lighting fixture of claim 162, wherein the at least one non-white LED further includes at least one of at least one red LED, at least one green LED, and at least one blue LED.

164. (Previously Presented) The lighting fixture of claim 160, wherein the control circuit is configured to independently control at least a first intensity of the first radiation and a second intensity of the second radiation so as to controllably vary an overall color of the resulting spectrum as perceived by an observer.

165. (Previously Presented) The lighting fixture of claim 164, wherein the control circuit is configured to independently control at least the first intensity of the first radiation and the second intensity of the second radiation so as to controllably vary the resulting spectrum to generate essentially white light over a range of color temperatures.

166. (Previously Presented) The lighting fixture of claim 165, wherein the control circuit is configured to implement a pulse width modulation technique to control at least the first intensity of the first radiation and the second intensity of the second radiation.

167. (Previously Presented) The lighting fixture of claim 166, wherein the control circuit is configured as an addressable control circuit.

168. (Previously Presented) The lighting fixture of claim 167, wherein the lighting fixture is configured to be coupled to at least one other addressable lighting fixture so as to form a networked lighting system.

169. (Previously Presented) The lighting fixture of claim 166, wherein the control circuit is configured to independently control at least the first intensity of the first radiation and the second intensity of the second radiation in response to user input.

170. (Previously Presented) The lighting fixture of claim 169, wherein the lighting fixture is configured to be coupled to at least one user interface that provides at least one control signal to the control circuit.

171. (Previously Presented) The lighting fixture of claim 170, further including the at least one user interface.

172. (Previously Presented) The lighting fixture of claim 171, wherein the at least one user interface includes:

at least one representation of the range of color temperatures; and

means for selecting a desired color temperature from the range of color temperatures.

173. (Previously Presented) The lighting fixture of claim 172, wherein the at least one user interface includes a control unit having at least one of a dial, a slider, a switch, and a touch-sensitive surface.

174. (Previously Presented) The lighting fixture of claim 171, in combination with said device adapted for holding fluorescent tubes.

175. (Previously Presented) An apparatus, comprising:

a device adapted for holding fluorescent tubes; and

a lighting fixture for replacing fluorescent tubes, the lighting fixture being coupled to the device adapted for holding fluorescent tubes and comprising:

a mounting;

at least two component illumination sources mounted on said mounting;

a connector mounted on said mounting, said connector capable of connecting with the device adapted for holding fluorescent tubes to receive power from said device and provide power to said at least two component illumination sources; and

a control circuit for controlling said at least two component illumination sources, wherein said control circuit comprises a processor.

176. (Previously Presented) The apparatus of claim 175, wherein said device comprises a transformer to transform power from a power source.

177. (Previously Presented) The apparatus of claim 176, wherein the transformer is a ballast and the transformed power provided to the fixture is related to an impedance of the ballast.

178. (Previously Presented) The apparatus of claim 177, wherein the at least two component illumination sources include a plurality of LEDs.

179. (Previously Presented) The apparatus of claim 177, wherein the at least two component illumination sources include at least one white LED.

180. (Previously Presented) The apparatus of claim 179, wherein the at least two component illumination sources includes at least one amber LED.

181. (Previously Presented) The apparatus of claim 178, wherein the control circuit is configured to receive the power provided to the fixture and vary an intensity of radiation produced by at least one of the plurality of LEDs based on the received power.

182. (Previously Presented) The apparatus of claim 180, further comprising a converter circuit electrically connected to the plurality of LEDs to convert a ballast voltage to a DC voltage.

183. (Previously Presented) The lighting fixture of claim 88, wherein:

the at least two component illumination sources include a plurality of LEDs;

the mounting includes at least one linear track; and

the plurality of LEDs are mounted in an essentially linear arrangement along the at least one linear track.

184. (Previously Presented) The lighting fixture of claim 183, wherein the plurality of LEDs include at least one white LED and at least one amber LED.

185. (Previously Presented) The lighting fixture of claim 184, wherein the control circuit is configured to independently control at least a first intensity of the first radiation and a second intensity of the second radiation.

186. (Previously Presented) The lighting fixture of claim 185, wherein the control circuit is configured to implement a pulse width modulation technique to control at least the first intensity of the first radiation and the second intensity of the second radiation.

187. (Previously Presented) The lighting fixture of claim 185, wherein the control circuit is configured as an addressable control circuit.

188. (Previously Presented) The lighting fixture of claim 187, wherein the lighting fixture is configured to be coupled to at least one other addressable lighting fixture so as to form a networked lighting system.

189. (Previously Presented) The lighting fixture of claim 186, wherein the control circuit is configured to independently control at least the first intensity of the first radiation and the second intensity of the second radiation in response to user input.

190. (Previously Presented) The lighting fixture of claim 189, wherein the lighting fixture is configured to be coupled to at least one user interface that provides at least one control signal to the control circuit.

191. (Previously Presented) The lighting fixture of claim 190, in combination with the at least one user interface.

192. (Previously Presented) The combination of claim 191, wherein the at least one user interface includes:

at least one representation of the range of color temperatures; and

means for selecting a desired color temperature from the range of color temperatures.

193. (Previously Presented) The combination of claim 192, wherein the at least one user interface is configured to be affixed to the lighting fixture.

194. (Previously Presented) The combination of claim 192, wherein the at least one user interface is capable of being affixed proximate to the lighting fixture.

195. (Previously Presented) The lighting fixture of claim 183, further comprising an essentially cylindrical housing substantially enclosing the mounting.

196. (Previously Presented) The lighting fixture of claim 195, wherein the essentially cylindrical housing includes a portion that is at least one of transparent and translucent.

197. (Previously Presented) The lighting fixture of claim 195, wherein the essentially cylindrical housing includes at least one filter.

198. (Previously Presented) The lighting fixture of claim 183, in combination with the device adapted for holding fluorescent tubes.

199. (Previously Presented) The lighting fixture of claim 88, wherein the control circuit includes a processor.

200. (Previously Presented) The lighting fixture of claim 199, further comprising at least one sensor operatively coupled to the processor, the at least one sensor providing information to the processor to control a composition of the resulting spectrum.

201. (Previously Presented) The lighting fixture of claim 200, wherein the overall color of the resulting spectrum as perceived by the observer is essentially white, and wherein the processor is configured to independently control at least one of the first intensity of the first radiation and the second intensity of the second radiation so as to controllably vary a color temperature of the resulting spectrum.

202. (Previously Presented) The lighting fixture of claim 201, wherein the information from the at least one sensor includes ambient light information relating to ambient light proximate the lighting fixture.

203. (Previously Presented) The lighting fixture of claim 202, wherein the processor is configured to calibrate the lighting fixture based on the ambient light information.

204. (Previously Presented) The lighting fixture of claim 201, wherein the information from the at least one sensor includes remote illumination information relating to illumination conditions remote from the lighting fixture.

205. (Previously Presented) The lighting fixture of claim 204, wherein the processor is configured to adjust the resulting spectrum according to the information from the at least one sensor to essentially reproduce the remote illumination conditions.

206. (Previously Presented) The lighting fixture of claim 202, wherein the information from the at least one sensor further includes remote light information about illumination conditions remote from the lighting fixture and wherein the processor is configured to adjust the resulting spectrum to substantially match the ambient light information with the remote light information.

207. (Previously Presented) The lighting fixture of claim 201, wherein the lighting fixture further comprises a user interface coupled to the processor and adapted to provide user control over the composition of the resulting spectrum.

208. (Previously Presented) The lighting fixture of claim 207, wherein the user interface includes:

at least one representation of the range of colors; and

means for selecting a color from the range of colors.

209. (Previously Presented) The lighting fixture of claim 208, wherein the at least one representation includes at least one of a color palette, a color range, chromaticity diagram and a Commission Internationale de l'Eclairage (CIE) diagram.

210. (Previously Presented) The lighting fixture of claim 66, wherein the plurality of component illumination sources include at least two component illumination sources comprising:

a first illumination source configured to generate first radiation having a first spectrum; and

a second illumination source configured to generate second radiation having a second spectrum,

wherein the lighting fixture is configured such that a mixing of the first and second radiation, when power is provided to at least the first and second illumination sources, produces the resulting spectrum.

211. (Previously Presented) The lighting fixture of claim 210, wherein the lighting fixture is configured such that a color of the resulting spectrum as perceived by an observer at a given time is an essentially white color.

212. (Previously Presented) The lighting fixture of claim 210, wherein the lighting fixture is configured such that within a visible range, the resulting spectrum is continuous and has no spectral valley wavelength greater than a maximum spectral peak wavelength of the resulting spectrum.

213. (Previously Presented) The lighting fixture of claim 210, wherein each of the first and second spectrums has a maximum spectral peak wavelength outside a range from approximately 510 nm to 570 nm.

214. (Previously Presented) The lighting fixture of any of claims 210-213, wherein the at least two component illumination sources further include at least one non-white LED.

215. (Previously Presented) The lighting fixture of claim 214, wherein the at least one non-white LED includes at least one amber LED.

216. (Previously Presented) The lighting fixture of claim 214, wherein the at least one non-white LED includes at least one red LED, at least one green LED, and at least one blue LED.

217. (Previously Presented) The lighting fixture of claim 214, wherein the at least one non-white LED includes at least one amber LED, and at least one of at least one red LED, at least one green LED, and at least one blue LED.

218. (Previously Presented) The lighting fixture of claim 214, wherein the at least one non-white LED includes an infrared (IR) LED.

219. (Previously Presented) The lighting fixture of claim 214, wherein the at least one non-white LED includes an ultraviolet (UV) LED.

220. (Previously Presented) The lighting fixture of claim 214, wherein the at least two component illumination sources further comprise at least one third illumination source that is not an LED, the at least one third illumination source configured to generate third radiation having a third spectrum, the lighting fixture arranged such that, when power is provided to the first, second and third illumination sources, the third spectrum mixes with at least one of the first and second spectrums to produce the resulting spectrum.

221. (Previously Presented) The lighting fixture of claim 220, wherein the third spectrum has a maximum spectral peak wavelength within a range from approximately 510 nm to 570 nm.

222. (Previously Presented) The lighting fixture of claim 210, further comprising a control circuit configured to independently control at least a first intensity of the first radiation and a second intensity of the second radiation.

223. (Previously Presented) The lighting fixture of claim 222, wherein the control circuit is configured to implement a pulse width modulation technique to control at least the first intensity of the first radiation and the second intensity of the second radiation.

224. (Previously Presented) The lighting fixture of claim 223, wherein the control circuit is configured as an addressable control circuit.

225. (Previously Presented) The lighting fixture of claim 224, wherein the lighting fixture is configured to be coupled to at least one other addressable lighting fixture so as to form a networked lighting system.

226. (Previously Presented) The lighting fixture of claim 222, wherein the control circuit is configured to independently control at least the first intensity of the first radiation and the second intensity of the second radiation in response to user input.

227. (Previously Presented) The lighting fixture of claim 226, wherein the lighting fixture is configured to be coupled to at least one user interface that provides at least one control signal to the control circuit.

228. (Previously Presented) The lighting fixture of claim 227, wherein the control circuit is configured to independently control at least the first intensity of the first radiation and the second intensity of the second radiation so as to controllably vary the resulting spectrum to generate essentially white light over a range of color temperatures.

229. (Previously Presented) The lighting fixture of claim 228, wherein the control circuit is configured to controllably vary the resulting spectrum in response to the at least one control signal and wherein the at least one control signal indicates a user specified color temperature in the range of color temperatures.

230. (Previously Presented) The lighting fixture of claim 229, in combination with the at least one user interface.

231. (Previously Presented) The combination of claim 230, wherein the at least one user interface includes:

at least one representation of the range of color temperatures; and

means for selecting a desired color temperature from the range of color temperatures.

232. (Previously Presented) The combination of claim 231, wherein the user interface includes at least one display configured to display the at least one representation of the range of color temperatures.

233. (Previously Presented) The combination of claim 231, wherein the means for selecting a desired color temperature includes at least one of a dial, a switch, a slider, and a touch-sensitive surface.

234. (Previously Presented) The lighting fixture of claim 228, in combination with a computer system comprising the at least one user interface.

235. (Previously Presented) The combination of claim 234, wherein the computer system includes means for controllably varying the resulting spectrum.

236. (Previously Presented) The combination of claim 234, wherein the computer system includes means for selecting a color temperature from the range of color temperatures.

237. (Previously Presented) The combination of claim 236, wherein the means for selecting a color temperature includes at least one of a keyboard, a mouse, a console, and a touch sensitive surface.

238. (Previously Presented) The combination of claim 234, wherein the computer system includes at least one display configured to display at least one representation of the range of color temperatures.

239. (Previously Presented) The combination of claim 238, wherein the at least one representation includes at least one of a color palette, a color range, chromaticity diagram and a Commission Internationale de l'Eclairage (CIE) diagram.

240. (Previously Presented) The combination of claim 238, wherein the display further indicates a current selected color temperature.

241. (Previously Presented) The lighting fixture of claim 226, wherein the control circuit includes a wireless receiver configured to receive remote wireless user input.

242. (Previously Presented) The lighting fixture of claim 241, in combination with at least one user interface, wherein the at least one user interface includes a remote control unit adapted to wirelessly provide at least one control signal to the control circuit.

243. (Previously Presented) The lighting fixture of claim 210, wherein:
the at least two component illumination sources include a plurality of LEDs;
the mounting includes at least one linear track; and
the plurality of LEDs are mounted in an essentially linear arrangement along the at least one linear track.

244. (Previously Presented) The lighting fixture of claim 243, wherein the plurality of LEDs include the at least one white LED and at least one amber LED.

245. (Previously Presented) The lighting fixture of claim 243, wherein the plurality of LEDs include at least one of at least one amber LED, at least one red LED, at least one green LED and at least one blue LED.

246. (Previously Presented) The lighting fixture of claim 243, further comprising an essentially cylindrical housing substantially enclosing the mounting.

247. (Previously Presented) The lighting fixture of claim 246, wherein the essentially cylindrical housing includes a portion that is at least one of transparent and translucent.

248. (Previously Presented) The lighting fixture of claim 246, wherein the essentially cylindrical housing includes at least one filter.

249. (Previously Presented) The lighting fixture of claim 248, wherein the at least one filter includes at least one of a diffuse filter, a colored filter, and a high pass filter.

250. (Previously Presented) The method of claim 85, wherein the act A) includes an act of mounting at least two component illumination sources comprising:

a first illumination source configured to generate first radiation having a first spectrum; and

a second illumination source configured to generate second radiation having a second spectrum, such that a mixing of the first and second radiation, when power is provided to at least the first and second illumination sources, produces the resulting spectrum.

251. (Previously Presented) The method of claim 250, wherein the act B) includes an act of selecting the first and second illumination sources such that the first spectrum and the second spectrum are different.

252. (Previously Presented) The method of claim 250, wherein the act B) includes an act of selecting the first and second illumination sources such that within a visible range, the resulting spectrum is continuous and has no spectral valley wavelength greater than a maximum spectral peak wavelength of the resulting spectrum.

253. (Previously Presented) The method of claim 250, wherein the act B) includes an act of selecting the first and second illumination sources such that each of the first and second spectrums has a maximum spectral peak wavelength outside a range from approximately 510 nm to 570 nm.

254. (Previously Presented) The method of claim 250, wherein the act B) includes an act of selecting the first and second illumination sources to include at least one of at least one amber LED, at least one red LED, at least one green LED, and at least one blue LED.

255. (Previously Presented) The method of claim 254, wherein the act A) includes an act of mounting at least one third illumination source that is not an LED, the at least one third illumination source configured to generate third radiation having a third spectrum, such that when power is provided to the first, second and third illumination sources, the third spectrum mixes with at least one of the first and second spectrums to produce the resulting spectrum.

256. (Previously Presented) The method of claim 255, wherein the third spectrum has a maximum spectral peak wavelength within a range from approximately 510 nm to 570 nm.

257. (Previously Presented) The method of claim 250, further including an act of:

C) independently controlling at least a first intensity of the first radiation and a second intensity of the second radiation.

258. (Previously Presented) The method of claim 257, wherein the act C) includes an act of implementing a pulse width modulation technique to control at least the first intensity of the first radiation and the second intensity of the second radiation.

259. (Previously Presented) The method of claim 258, wherein the act C) includes an act of receiving addressed data to control at least the first intensity of the first radiation and the second intensity of the second radiation.

260. (Previously Presented) The method of claim 259, further comprising an act of forming a networked lighting system using at least the first and second illumination sources.

261. (Previously Presented) The method of claim 257, wherein the act C) includes an act of independently controlling at least the first intensity of the first radiation and the second

intensity of the second radiation so as to controllably vary an overall color of the resulting spectrum as perceived by an observer.

262. (Previously Presented) The method of claim 257, wherein act C) includes an act of independently controlling at least the first intensity of the first radiation and the second intensity of the second radiation in response to user input.

263. (Previously Presented) The method of claim 262, further comprising an act of:

D) receiving at least one control signal from at least one user interface to perform the act C).

264. (Previously Presented) The method of claim 263, wherein the act C) includes an act of independently controlling at least the first intensity of the first radiation and the second intensity of the second radiation so as to controllably vary the resulting spectrum to generate essentially white light over a range of color temperatures.

265. (Previously Presented) The method of claim 264, wherein the range of color temperatures includes approximately 4800K and wherein the act C) includes an act of controlling a composition of the resulting spectrum such that white light produced at approximately 4800K has a Color Rendering Index (CRI) value of at least 80.

266. (Previously Presented) The method of claim 264, wherein the range of color temperatures includes approximately 2300K and wherein the act C) includes an act of controlling a composition of the resulting spectrum such that white light produced at approximately 2300K has a Color Rendering Index (CRI) value of at least 50.

267. (Previously Presented) The method of claim 264, wherein the range of color temperatures includes at least one color temperature in a range from 500K to 2500K.

268. (Previously Presented) The method of claim 264, wherein the act C) includes an act of controllably varying the resulting spectrum in response to the at least one control signal, wherein the at least one control signal indicates a user specified color temperature in the range of color temperatures.

269. (Previously Presented) The method of claim 264, wherein the at least one user interface includes:

at least one representation of the range of color temperatures; and

means for selecting a desired color temperature from the range of color temperatures.

270. (Previously Presented) The method of claim 269, wherein the user interface includes at least one display configured to display the at least one representation of the range of color temperatures.

271. (Previously Presented) The method of claim 269, wherein the means for selecting a desired color temperature includes at least one of a dial, a switch, a slider, and a touch-sensitive surface.

272. (Previously Presented) The method of claim 263, further including an act of affixing the at least one user interface to the plurality of component illumination sources.

273. (Previously Presented) The method of claim 263, further including an act of affixing the at least one user interface proximate the plurality of component illumination sources.

274. (Previously Presented) The method of claim 263, further including an act of mounting the at least one user interface to a wall.

275. (Previously Presented) The method of claim 262, wherein the act C) includes an act of receiving remote wireless user input to control the first and second illumination sources.

276. (Previously Presented) The method of claim 275, further comprising an act of wirelessly providing at least one control signal to control the first and second illumination sources.

277. (Previously Presented) The method of claim 250, wherein the at least two component illumination sources include at least one LED including a phosphor.

278. (Previously Presented) The method of claim 277, wherein:

the first illumination source includes the at least one LED including the phosphor;

the at least one LED including the phosphor is configured to irradiate the phosphor with pump radiation; and

the phosphor converts at least a portion of the pump radiation so as to emit the first radiation having the first spectrum.

279. (Previously Presented) The method of claim 278, wherein the first spectrum includes essentially green and red light.

280. (Previously Presented) The method of claim 279, wherein the pump radiation includes essentially blue light.

281. (Previously Presented) The method of claim 278, further comprising an act of filtering a portion of the resulting spectrum.

282. (Previously Presented) The method of claim 281, wherein the act of filtering includes an act of attenuating a portion of at least one of the first spectrum and the second spectrum.

283. (Previously Presented) The method of claim 281, wherein the act of filtering includes an act of attenuating a portion of the pump radiation not converted by the phosphor.

284. (Previously Presented) The method of claim 281, wherein the act of filtering includes an act of using at least of a high pass filter and a yellow filter.

285. (Previously Presented) The method of claim 278, wherein the second illumination source is configured such that the second spectrum includes essentially amber light.

286. (Previously Presented) The method of claim 250, wherein:

the at least two component illumination sources include a plurality of LEDs; and

the act A) includes an act of mounting the plurality of LEDs in an essentially linear arrangement along at least one linear track.

287. (Previously Presented) The method of claim 286, wherein the act B) includes an act of selecting the plurality of LEDs to include at least one white LED and at least one amber LED.

288. (Previously Presented) The method of claim 286, further comprising an act of substantially enclosing the at least one linear track in an essentially cylindrical housing.

289. (Previously Presented) The method of claim 288, wherein the essentially cylindrical housing includes a portion that is at least one of transparent and translucent.

290. (Previously Presented) The method of claim 288, wherein the essentially cylindrical housing includes at least one filter.

291. (Previously Presented) The method of claim 250, further comprising an act of controlling a composition of the resulting spectrum based on information provided by at least one sensor.

292. (Previously Presented) The method of claim 291, wherein the overall color of the resulting spectrum as perceived by an observer is essentially white, and wherein the act of

controlling includes an act of independently controlling at least one of the first intensity of the first radiation and the second intensity of the second radiation so as to controllably vary a color temperature of the resulting spectrum.

293. (Preveiously Presented) The method of claim 292, wherein the information from the at least one sensor includes ambient light information relating to ambient light proximate the plurality of component illumination sources.

294. (Previously Presented) The method of claim 293, wherein the act of controlling includes an act of calibrating the plurality of component illumination sources based on the ambient light information.

295. (Previously Presented) The method of claim 292, wherein the information from the at least one sensor includes remote illumination information relating to illumination conditions remote from the plurality of component illumination sources.

296. (Previously Presented) The method of claim 295, wherein the act of controlling includes an act of adjusting the resulting spectrum according to the information from the at least one sensor to essentially reproduce the remote illumination conditions.

297. (Previously Presented) The method of claim 293, wherein the information from the at least one sensor further includes remote light information about illumination conditions remote from the plurality of component illumination sources and wherein the act of controlling includes an act of adjusting the resulting spectrum to substantially match the ambient light information with the remote light information.

298. (Previously Presented) The method of claim 292, further comprising an act of providing user control over the composition of the resulting spectrum.